ADAPTIVE DELAY CONTROL CIRCUIT FOR SWITCHED MODE POWER SUPPLY

ABSTRACT

A switched mode power supply comprises a first switch coupled to an input power source, a second switch coupled to ground, and an output filter coupled to a phase node defined between the first and second switches. The first and second switches are responsive to a pulse width modulated signal to thereby regulate power provided to the output filter. A controller is provided in a feedback loop that monitors operation of the first and second switches and delays activation of one of the first and second switches to preclude simultaneous conduction. The controller comprises at least one delay control circuit adapted to delay delivery of the pulse width modulated signal to at least one of the first and second switches. The delay control circuit detects a phase difference between state transitions of the first and second switches and provides a delay corresponding to a magnitude of the phase difference.